

Name: _____

EXTRA CREDIT (10 pts)

The cotransduction frequencies of 6 E. coli markers are listed in the table below. From this data, deduce the order of these markers. Present your answer in such a way that I can follow your reasoning.

Selected Donor Marker	Inheritance of unselected donor marker (no. inheriting marker/total colonies scored).				
	dsdA	purC	aroC	ptsI	supN
supN			20/212	183/212	
ptsI	15/128	10/228	0/304		88/108
purC				54/967	33/976
dsdA			50/240	22/240	
guaB		72/227	0/227	0/277	

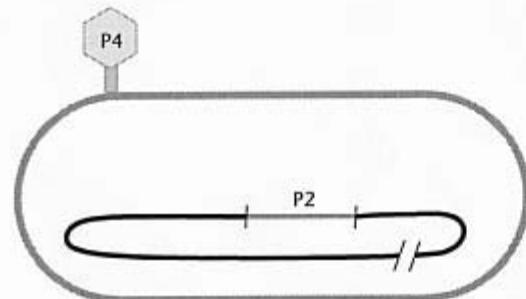


8 Phage λ and Lysogeny

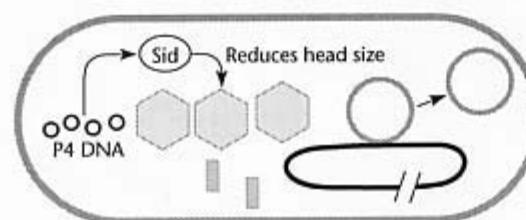
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Figure 8.14

A P4 infects a P2 lysogen

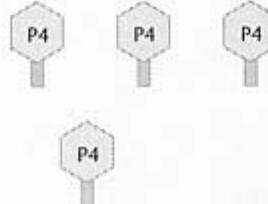


P4 inhibits
P2 repressor

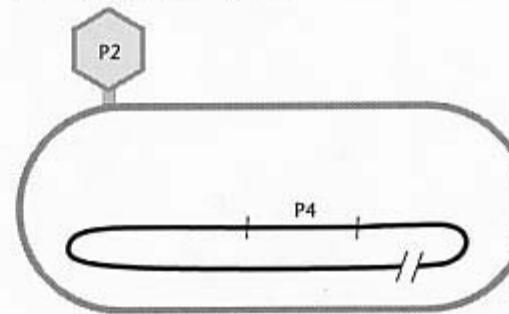


Induction
of lysogen
and P2 head
and tail
production

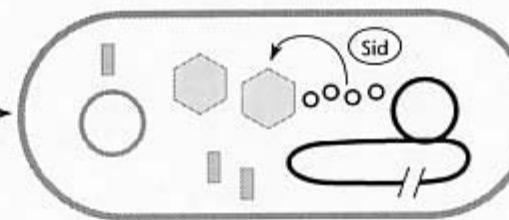
Small P2
heads package
P4 DNA



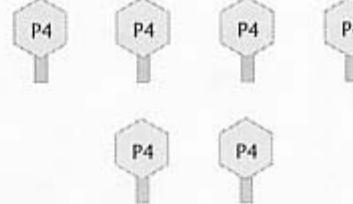
B P2 infects a P4 lysogen



P4 Sid protein
reduces P2 head size



Small P2
heads package
P4 DNA





8 Phage λ and Lysogeny

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Figure 8.15

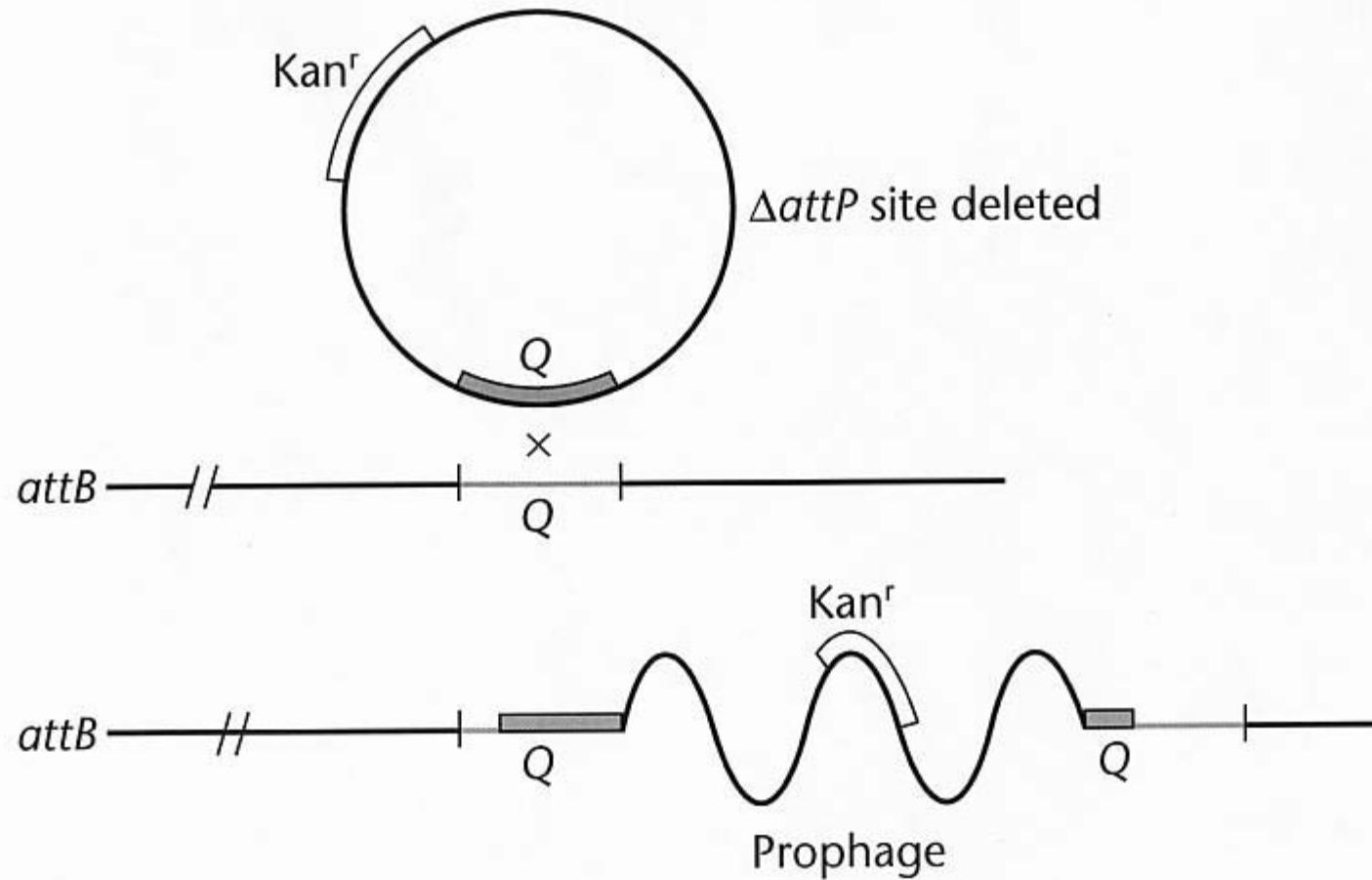
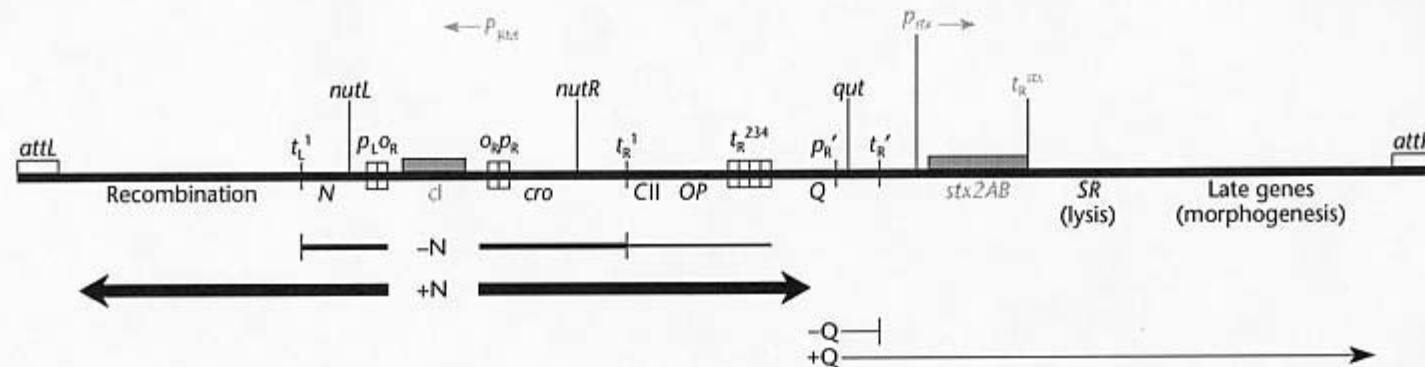




Figure 8.16



Some λ mutations affecting lysogeny

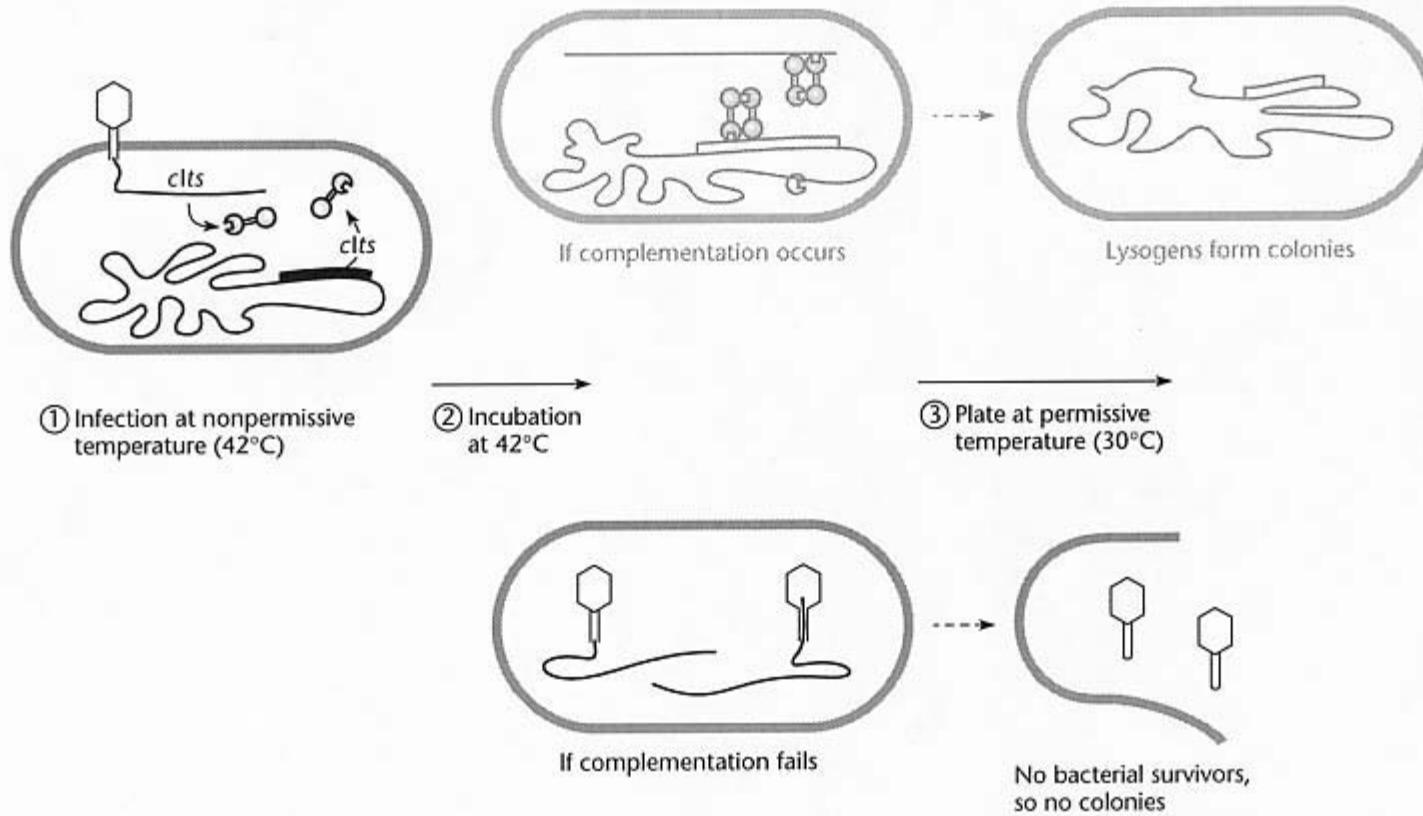
Phage	<u>E. coli</u>	<u>H. host</u>	<u>E. coli</u> (λ)
λ^+	turbid	no plaques	
λcI	clear	"	
λcI^{ts}	30° turbid 72° clear	"	"
λcI^{ind}	turbid	"	
λvir	clear	clear	
λcII	clear	no plaques	
$\lambda cIII$	clear	"	



8 Phage λ and Lysogeny

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Figure 8.17

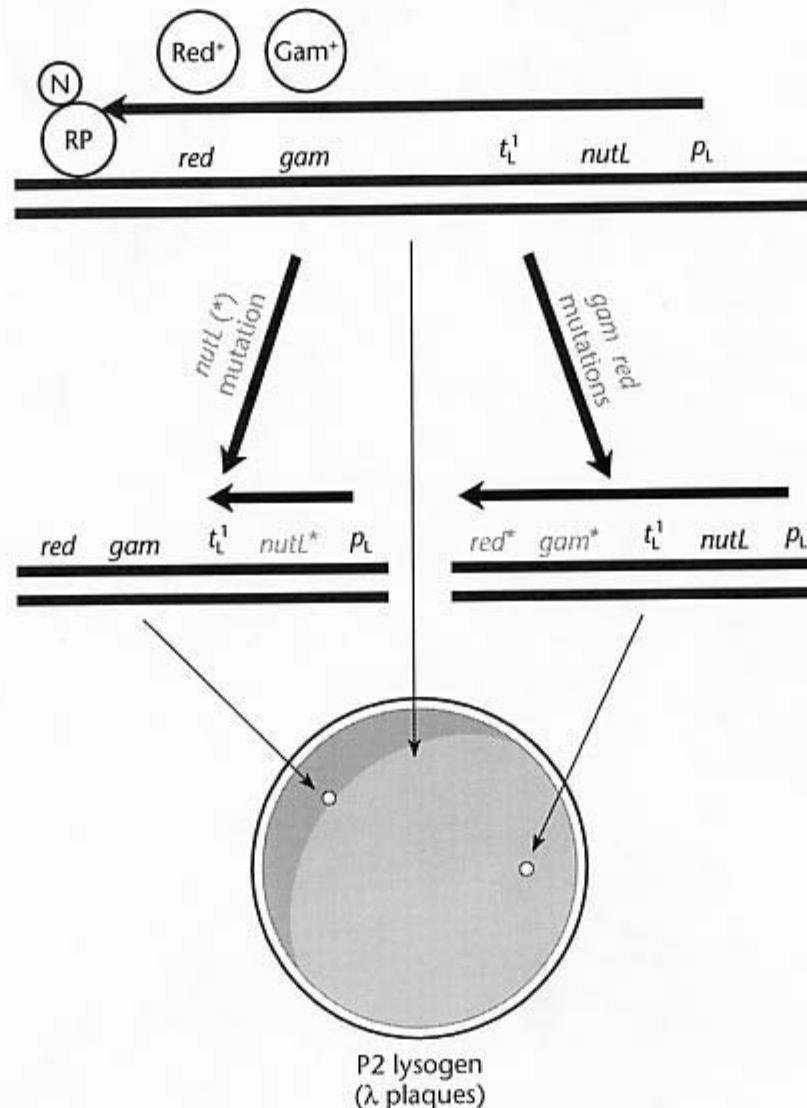




8 Phage λ and Lysogeny

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Figure 8.18





8 Phage λ and Lysogeny

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Figure 8.19

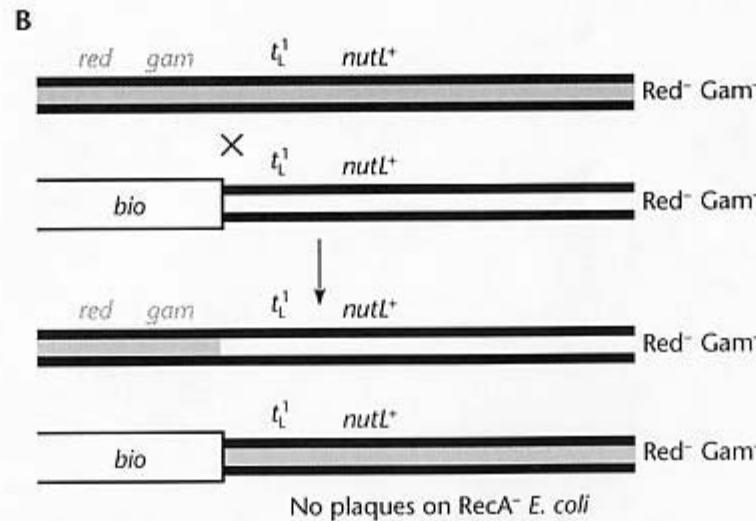
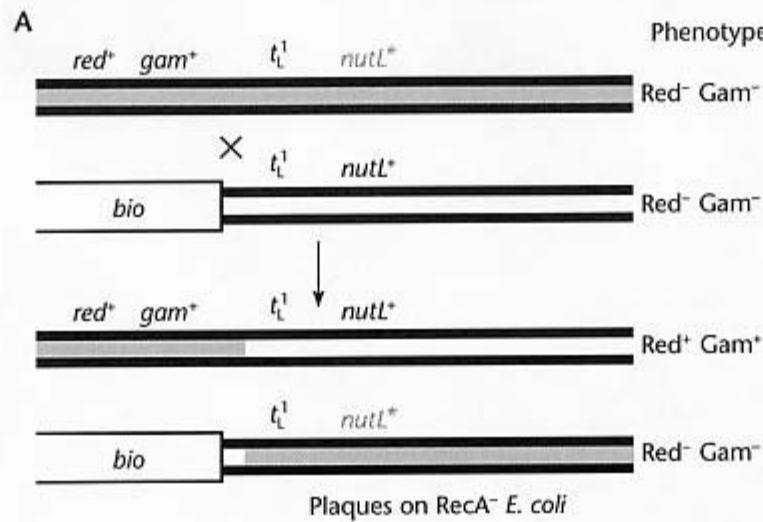




Figure 9.1

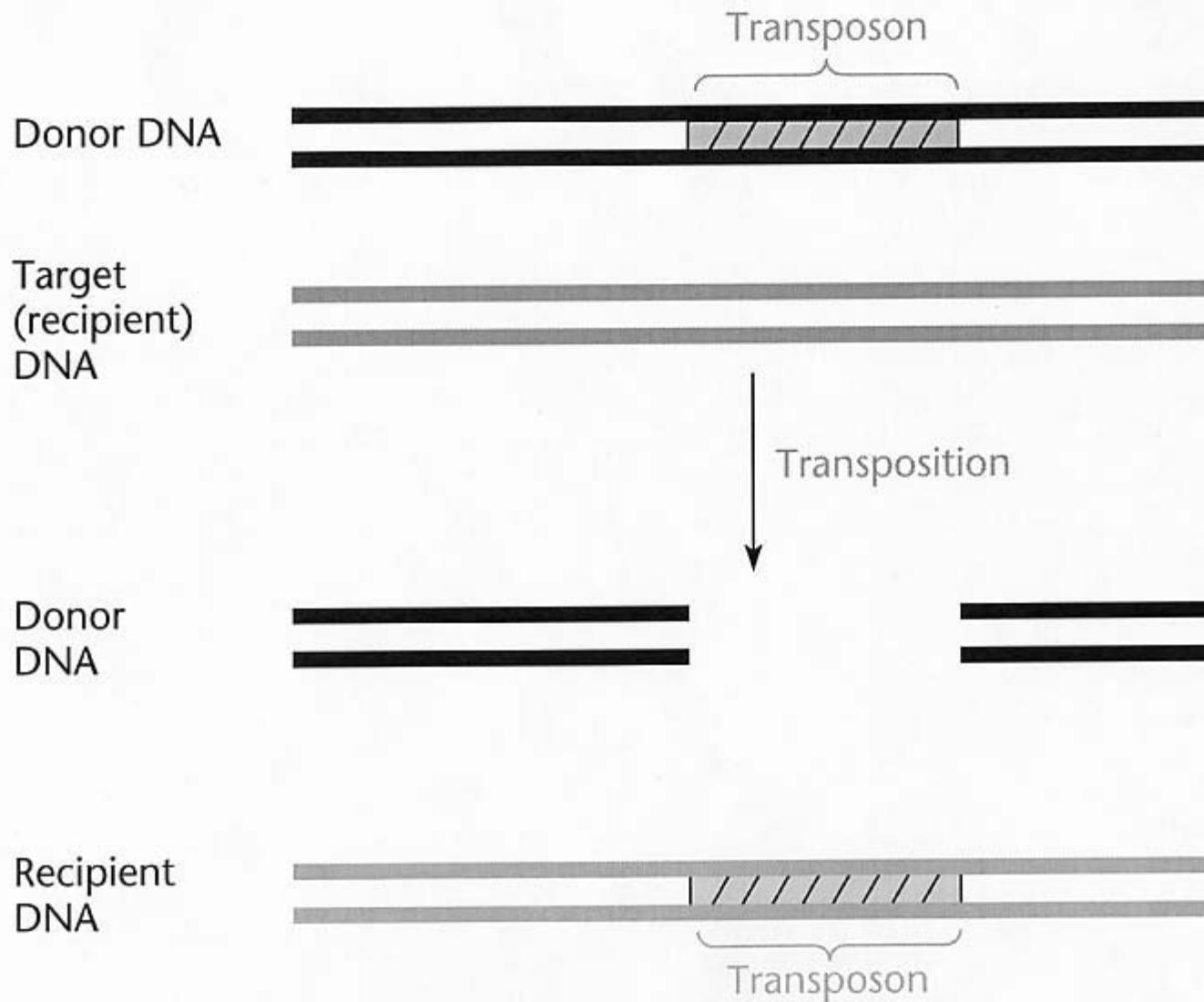
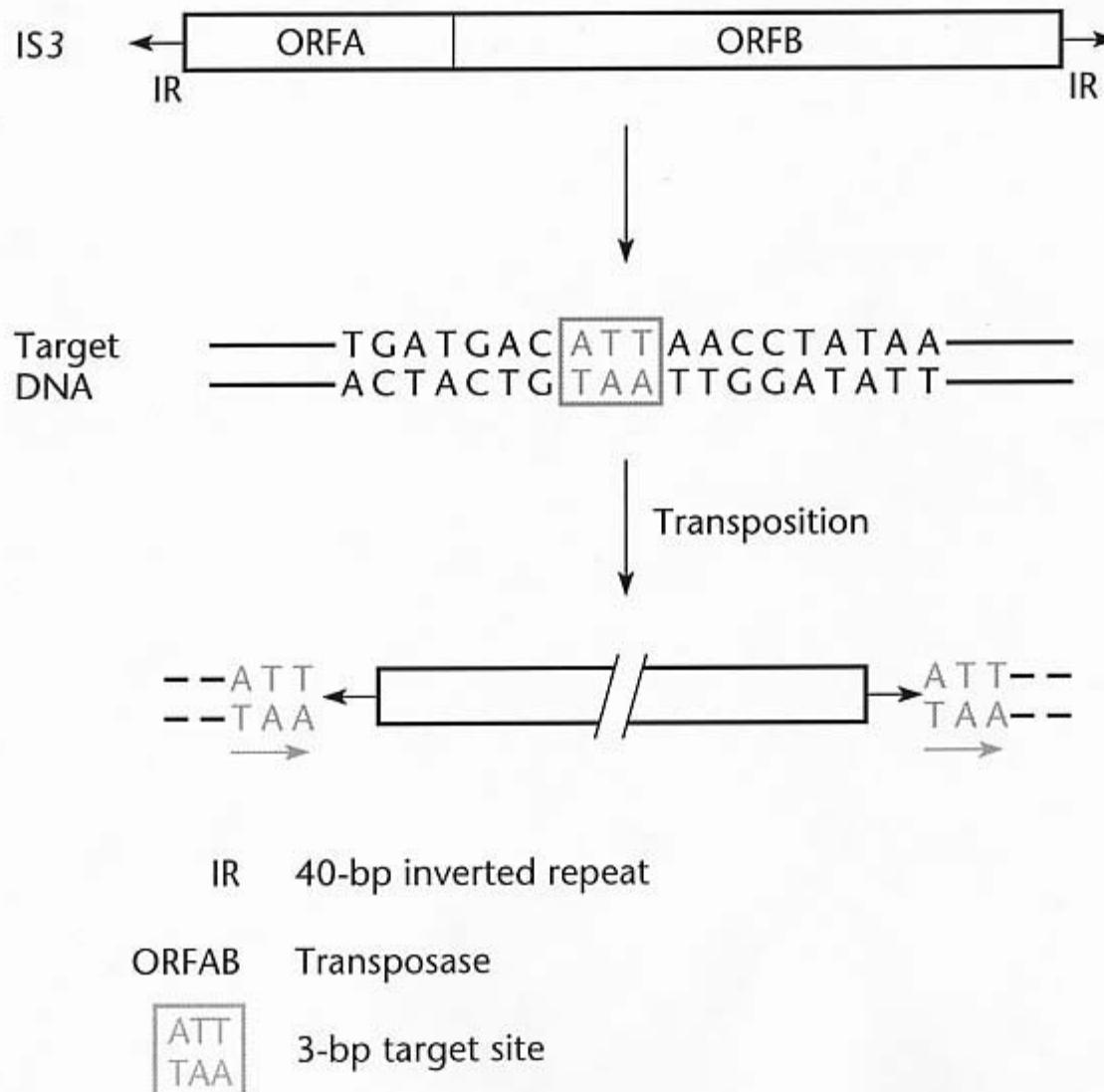




Figure 9.2



**Figure 9.3**